PERGAMON

Journal of Quantitative Spectroscopy & Radiative Transfer 81 (2003) III–VI

Journal of Quantitative Spectroscopy & Radiative Transfer

www.elsevier.com/locate/jqsrt

List of Contents

NUMBER 1

1 Dedication to Charles F. Hooper, Jr.

J. Abdallah Jr, G.C. Junkel-Vives, A.Ya. Faenov, I.Yu. Skobelev, T.A. Pikuz, A.I. Magunov, F. Blasco, C. Bonte, F. Dorchies, T. Caillaud, C. Salin and **C. Stenz** — 3 Time-dependent study of K-shell satellite line structure from L-shell ions in ultra-short laser argon cluster experiments

S. Alexiou — 13 On the pure dipole shift for hydrogen lines in a plasma

P. Audebert, V. Nagels, J.P. Geindre, F. Dorchies, O. Peyrusse, S. Gary, F. Girard, R. Shepherd, J.C. Gauthier and **C. Chenais-Popovics** — 19 X-ray spectroscopy of a thin foil plasma produced by a short-pulse high-intensity laser

J.E. Bailey, P. Arnault, T. Blenski, G. Dejonghe, O. Peyrusse, J.J. MacFarlane, R.C. Mancini, M.E. Cuneo, D.S. Nielsen and **G.A. Rochau** — 31 Opacity measurements of tamped NaBr samples heated by *z*-pinch X-rays

J. Bauche, C. Bauche-Arnoult, O. Peyrusse, A. Bachelier, K.B. Fournier, C. Chenais-Popovics and **J.-C. Gauthier** — 47 Analysis of a non-LTE xenon spectrum by means of the model of superconfiguration temperatures

D. Benredjem, J. Kuba and **C. Möller** — 57 Collimated-X-ray propagation in Ne-like and Ni-like media

C. Blancard and **G. Faussurier** — 65 Tests of the SCAALP model for the case of a non-LTE steady-state Xenon plasma

C. Bowen, A. Decoster, C.J. Fontes, K.B. Fournier, O. Peyrusse and **Yu.V. Ralchenko** — 71 Review of the NLTE emissivities code comparison virtual workshop

C. Bowen and **P. Kaiser** — 85 Dielectronic recombination in Au ionisation temperature calculations

R. de Bruijn, K. Koshelev, G. Kooijman, E. Simona Toma and **F. Bijkerk** — 97 Absorption of EUV in laser plasmas generated on xenon gas jets

H.-K. Chung, W.L. Morgan and **R.W. Lee** 107 FLYCHK: an extension to the K-shell spectroscopy kinetics model FLY

J. Dubau, D. Porquet and **O.Z. Zabaydullin** 117 Absorption spectra of Fe L-lines in Seyfert 1 galaxies

E. Dufour, A. Calisti, B. Talin, M. A. Gigosos, M.A. González and **J.W. Dufty** 125 Charge correlation effects in electron broadening of ion emitters in hot and dense plasmas

K. Eidmann, U. Andiel, F. Pisani, P. Hakel, R.C. Mancini, G.C. Junkel-Vives, J. Abdallah and **K. Witte** 133 K-shell spectra from hot dense aluminum layers buried in carbon and heated by ultrashort laser pulses

D.V. Fisher and **Y. Maron** 147 Characterization of electron states in dense plasmas and its use in atomic kinetics modeling

K.B. Fournier, A.Ya. Faenov, T.A. Pikuz, I.Yu. Skobelev, F. Flora, S. Bollanti, P. Di Lazzaro, D. Murra, A. Reale, L. Reale, G. Tomassetti, A. Ritucci, I. Bellucci, S. Martellucci, G. Petrocelli, V.S. Belyaev, V.I. Vinogradov, A.S. Kyrilov and **A.P. Matafonov** 167 Rydberg transitions in the spectra of near-neon-like Cu and Zn ions in different laser-produced plasmas: observations and modeling

R. Freeman, C. Anderson, J.M. Hill, J. King, R. Snavely, S. Hatchett, M. Key, J. Koch, A. MacKinnon, R. Stephens and **T. Cowan** 183 Understanding the role of fast electrons in the heating of dense matter: experimental techniques and recent results

D. Glouchkov, K. Koshelev and **A. Schulz** 191 Monte Carlo simulation of photon transport for optically thick, differentially moving plasmas: II. Escape factors for differentially moving spheres

A. Gouveia, I.R. Al'miev, J. Hawreliak, D.M. Chambers, T. Liang, R. Marjoribanks, P.A. Pinto, O. Renner, J. Zhang and **J.S. Wark** 199 Absorption spectroscopy of Al XIII Ly-α radiation by an Fe XXIV plasma

D.A. Haynes Jr., S.P. Regan, M.A. Gunderson and **N.D. Delamater** 209 Observation, interpretation, and diagnostic utility of plasma-induced line shifts

H. Hegazy, S. Seidel, Th. Wrubel and **H.-J. Kunze** 221 Broadening of the 3s–3p transition in NeVIII

C.A. Iglesias, M.H. Chen, V. Sonnad and **B.G. Wilson** 227 A new detailed term accounting opacity code for mid-Z elements: TOPAZ

T. Kawamura, T. Schlegel, H. Nishimura, F. Koike, Y. Ochi, R. Matsui, S. Okihara, S. Sakabe, T. Johzaki, H. Nagatomo, K. Mima, I. Uschmann, E. Förster and **D. H. H. Hoffmann** 237 Numerical study of Kα emission from partially ionized chlorine

G. Csanak, D.P. Kilcrease and **G.D. Meneses** 247 Coupled channel formulation of the perturbed finite-temperature atomic random phase approximation: single channel approximation

M. Busquet, M. Klapisch and **A. Bar-Shalom** 255 Absorption and emission profiles of unresolved arrays near local thermodynamic equilibrium

M. Koubiti, S. Loch, H. Capes, L. Godbert-Mouret, Y. Marandet, A. Meigs, R. Stamm and **H. Summers** 265 Smooth line merging into the continuum and Stark broadening of deuterium Balmer lines for plasma diagnostics

S.H. Langer, H.A. Scott, M.M. Marinak and **O.L. Landen** 275 Comparisons of line emission from 2- and 3-dimensionsal simulations of ICF capsules to experiments

J.J. MacFarlane 287 VISRAD—A 3-D view factor code and design tool for high-energy density physics experiments

E. Mínguez, P. Sauvan, J.M. Gil, R. Rodríguez, J.G. Rubiano, R. Florido, P. Martel, P. Angelo, R. Schott, F. Philippe, E. Leboucher-Dalimier and **R. Mancini** 301 A comparison of two atomic models for the radiative properties of dense hot low Z plasmas

S.J. Moon, K.B. Fournier, H. Scott, H.-K. Chung and **R.W. Lee** 311 Optical pumping experiments in the XUV regime

C. Mossé, S. Ferri, A. Calisti, B. Talin, D. Benredjem and **C. Möller** 319 Effect of frequency redistribution in X-ray laser modeling

H. Nishimura, T. Kawamura, R. Matsui, Y. Ochi, S. Okihara, S. Sakabe, F. Koike, T. Johzaki, H. Nagatomo, K. Mima, I. Uschmann and **E. Förster** 327 Kα spectroscopy to study energy transport in ultrahigh-intensity laser produced plasmas

V.G. Novikov and **S.V. Zakharov** 339 Modeling of non-equilibrium radiating tungsten liners

J.-C. Pain and **T. Blenski** 355 Self-consistent approach for the thermodynamics of ions in dense plasmas in the superconfiguration approximation

Yu.V. Ralchenko, H.R. Griem and **I. Bray** 371 Electron-impact broadening of the $3s$–$3p$ lines in low-Z Li-like ions

O. Renner, J. Limpouch, E. Krousky, I. Uschmann and **E. Förster** 385 Spectroscopic characterization of plasma densities of laser-irradiated Al foils

F.B. Rosmej, A. Calisti, R. Stamm, B. Talin, C. Moss, S. Ferri, M. Geißel, D.H.H. Hoffmann, A.Ya. Faenov and **T.A. Pikuz** 395 Strongly coupled laser produced plasmas: investigation of hollow ion formation and line shape analysis

A. Sasaki and **T. Kawachi** 411 Kinetics modeling of Ni-like multiple charged ions

J.F. Seely, R. Doron, A. Bar-Shalom, L.T. Hudson and **C. Stoeckl** 421 Hard X-ray emission from laser-produced plasmas of U and Pb recorded by a transmission crystal spectrometer

R. Shepherd, P. Audebert, H-K. Chen, K.B. Fournier, O. Peyreusse, S. Moon, R.W. Lee, D. Price, L. Klein, J.C. Gauthier and **P. Springer** 431 Satellite and opacity effects on resonance line shapes produced from short-pulse laser heated foils

R. Schott, F. Philippe, P. Angelo, E. Dufour, A. Poquérusse, E. Dalimier, P. Sauvan, E. Minguez, J.M. Gil, J.G. Rubiano, R. Rodriguez, P. Martel and **R. Mancini** 441 Low Z opacities at high densities

C.C. Smith 451 Opacity considerations for an experiment to measure radiation flow in an inhomogeneous binary mixture

S. Alexiou 461 Problems with the use of line shifts in plasmas

F. Thais, S. Bastiani, T. Blenski, C. Chenais-Popovics, K. Eidman, W. Fölsner, J.-C. Gauthier, F. Gilleron and **M. Poirier** 473 Absorption of local thermodynamic equilibrium aluminum at different densities

L.A. Welser, R.C. Mancini, J.A. Koch, N. Izumi, H. Dalhed, H. Scott, T.W. Barbee Jr., R.W. Lee, I.E. Golovkin, F. Marshall, J. Delettrez and **L. Klein** 487 Analysis of the spatial structure of inertial confinement fusion implosion cores at OMEGA

B. Wilson, C. Iglesias and **M. Chen** 499 Improvements in the phase-amplitude method for calculating free–free gaunt factors and spherical bessel functions of high angular momentum

J. Yuan, D.A. Haynes, R.R. Peterson and **G.A. Moses** 513 Flexible database-driven opacity and spectrum calculations